

LIBRARY
BUREAU OF THE CENSUS

census

Ref

HD

9724

.452x

19876

nos. 33A-

39D





PRELIMINARY REPORT
INDUSTRY SERIES

1987
Census of
Manufactures

MC87-I-35G(P)
Issued May 1989

SERVICE INDUSTRY MACHINES

Industries 3581, 3582, 3585, 3586, and 3589

INTRODUCTION

This report presents preliminary statistics from the 1987 Census of Manufactures for those establishments classified in the industries listed above. These data will be superseded by a more comprehensive final paperbound report. The method of data collection and use of administrative data are discussed in detail in the appendix.

All dollar figures included in this report are at prices current for the year specified and, therefore, unadjusted for changes in price levels. Consequently, when making comparisons to prior years, users should take into consideration the inflation that has occurred.

The definitions of these industries are the same as those used in the 1987 Standard Industrial Classification (SIC) Manual.¹

**INDUSTRY 3581, AUTOMATIC VENDING
MACHINES**

In the 1987 Census of Manufactures, Industry 3581, Automatic Vending Machines, had employment of 8.0 thousand. The employment figure was 8 percent above the 7.4 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was \$721.6 million. The products primary to this industry appear in table 2 and aggregated to \$700.9 million in 1987.

The cost of materials and services used by establishments in this industry amounted to \$376.9 million in 1987. Data on specific materials consumed appear in table 3.

**INDUSTRY 3582, COMMERCIAL LAUNDRY
EQUIPMENT**

In the 1987 Census of Manufactures, Industry 3582, Commercial Laundry Equipment, had employment of 4.6 thousand. The employment figure was 2 percent below the 4.7 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was \$455.1 million. The products primary to this industry appear in table 2 and aggregated to \$430.3 million in 1987.

The cost of materials and services used by establishments in this industry amounted to \$211.9 million in 1987. Data on specific materials consumed appear in table 3.

**INDUSTRY 3585, REFRIGERATION AND
HEATING EQUIPMENT**

In the 1987 Census of Manufactures, Industry 3585, Refrigeration and Heating Equipment, had employment of 134.7 thousand. The employment figure was 12 percent above the 120.5 thousand reported in 1982. Compared with 1986, employment in 1987 increased 5 percent. The 1986 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The total value of shipments for establishments classified in this industry was \$17.6 billion. The products primary to this industry appear in table 2 and aggregated to \$15.9 billion in 1987.

The cost of materials and services used by establishments in this industry amounted to \$9.2 billion in 1987. Data on specific materials consumed appear in table 3.

¹Standard Industrial Classification Manual: 1987. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Stock No. 041-001-00314-2.

Address inquiries to Bureau of the Census, Industry Division, Washington, DC 20233, or call JoAnna Nguyen (301) 763-7304.

U.S. Department of Commerce
BUREAU OF THE CENSUS

For sale by Superintendent of Documents, U.S. Government
Printing Office, Washington, DC 20402.

BUREAU OF THE CENSUS
LIBRARY



INDUSTRY 3586, MEASURING AND DISPENSING PUMPS

In the 1987 Census of Manufactures, Industry 3586, Measuring and Dispensing Pumps, had employment of 8.8 thousand. The employment figure was 9 percent above the 8.1 thousand reported in 1982. Compared with 1986, employment in 1987 increased 21 percent. The 1986 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The total value of shipments for establishments classified in this industry was \$982.8 million. The products primary to this industry appear in table 2 and aggregated to \$902.8 million in 1987.

The cost of materials and services used by establishments in this industry amounted to \$433.7 million in 1987. Data on specific materials consumed appear in table 3.

INDUSTRY 3589, SERVICE INDUSTRY MACHINERY, N.E.C.

In the 1987 Census of Manufactures, Industry 3589, Service Industry Machinery, N.E.C., had employment of 34.3 thousand. The employment figure was 11 percent above the 31.0 thousand reported in 1982. Compared with 1986, employment in 1987 increased 8 percent. The 1986 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The total value of shipments for establishments classified in this industry was \$3.9 billion. The products primary to this industry appear in table 2 and aggregated to \$3.8 billion in 1987.

The cost of materials and services used by establishments in this industry amounted to \$1.7 billion in 1987. Data on specific materials consumed appear in table 3.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used in the tables in this publication:

-	Represents zero.
(D)	Withheld to avoid disclosing data for individual companies; data are included in higher level totals.
(NA)	Not available.
(NC)	Not comparable.
(S)	Withheld because estimate did not meet publication standards on the basis of either the response rate or a consistency review.
(X)	Not applicable.
(Z)	Less than half the unit shown.
do	Ditto.
n.e.c.	Not elsewhere classified.
n.s.k.	Not specified by kind.
pt.	Part.
r	Revised.
SIC	Standard Industrial Classification.

Other abbreviations, such as lb, gal, yd, doz, bbl, and s tons, are used in the customary sense.

CONTACTS FOR DATA USERS

Subject Area	Contact	Phone
Census/ASM		
Durables	Kenneth Hansen	(301) 763-7304
Nondurables	Michael Zampogna	(301) 763-2510
Current Industrial Reports		
Durables	Malcolm Bernhardt	(301) 763-2518
Nondurables	Thomas Flood	(301) 763-5911
Import/Export Publications	Foreign Trade Division	(301) 763-5140
Industry Analysis and Forecasts	International Trade Administration	(202) 377-4356

Table 1. Historical Statistics for the Industry: 1987 and Earlier Years

[Excludes data for auxiliaries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix.]

Year ¹	Companies ² (no.)	All establishments ³		All employees		Production workers			Value added by manufac- ture ⁴ (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expendi- tures (million dollars)	End-of- year inventories ⁴ (million dollars)	Ratios	
		Total (no.)	With 20 employ- ees or more (no.)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						Special- ization (per- cent)	Cover- age (per- cent)
INDUSTRY 3581, AUTOMATIC VENDING MACHINES															
1987 Census	(NA)	96	33	8.0	186.7	5.7	11.1	108.9	367.1	376.9	721.6	23.9	161.3	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	8.0	176.6	5.6	10.7	98.7	306.3	363.1	668.6	27.0	157.5	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	8.1	163.4	5.9	11.4	103.6	306.2	372.5	664.8	13.4	158.7	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	8.3	156.8	6.0	11.6	103.4	279.3	349.8	611.3	^{23.5}	156.1	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	7.5	132.9	5.1	9.8	72.4	257.1	345.0	596.0	^{25.3}	136.7	(NA)	(NA)
1982 Census	86	92	36	7.4	123.3	5.1	9.8	72.3	215.0	267.1	479.4	13.1	118.2	93	98
1981 ASM	(NA)	(NA)	(NA)	8.7	137.5	6.0	11.8	83.9	253.6	315.6	576.4	^{12.7}	120.3	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	8.9	127.3	6.3	12.0	77.4	211.2	294.8	501.3	^{16.8}	127.3	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	9.2	123.0	6.8	13.2	78.4	226.6	281.3	504.7	^{13.1}	120.5	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	9.4	116.0	6.9	13.4	73.0	222.3	258.6	482.6	^{8.8}	114.6	(NA)	(NA)
1977 Census	106	113	35	8.8	103.2	6.4	12.4	65.1	211.7	214.5	410.1	7.9	109.6	94	93
1976 ASM	(NA)	(NA)	(NA)	8.2	88.9	5.8	10.8	54.0	155.7	184.7	337.6	7.3	96.0	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	7.1	66.1	4.4	8.1	35.3	107.4	144.1	264.3	7.0	86.9	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	10.5	93.5	7.4	13.9	57.1	188.1	190.2	370.7	8.9	124.4	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	10.7	89.7	8.1	15.1	58.8	169.0	154.2	325.2	9.3	97.2	(NA)	(NA)
1972 Census	116	125	48	10.5	83.6	7.3	13.9	52.1	183.4	152.3	324.4	5.6	89.0	94	96
INDUSTRY 3582, COMMERCIAL LAUNDRY EQUIPMENT															
1987 Census	(NA)	80	41	4.6	107.1	3.4	7.0	66.5	246.7	211.9	455.1	6.5	84.6	(NA)	(NA)
1986 ASM ⁶	(NA)	(NA)	(NA)	4.5	100.2	3.1	6.6	59.8	196.0	184.5	381.6	^{6.9}	76.6	(NA)	(NA)
1985 ASM ⁶	(NA)	(NA)	(NA)	4.5	92.9	3.1	6.5	55.8	193.3	186.1	373.5	6.8	72.1	(NA)	(NA)
1984 ASM ⁶	(NA)	(NA)	(NA)	4.4	89.5	3.1	6.5	55.4	191.5	159.1	346.0	^{9.3}	72.3	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	4.5	85.6	3.1	6.5	52.8	177.5	160.0	338.5	^{6.0}	69.2	(NA)	(NA)
1982 Census	86	87	45	4.7	83.0	3.2	6.4	49.6	170.0	147.8	321.0	4.9	64.1	96	87
1981 ASM	(NA)	(NA)	(NA)	4.8	76.3	3.6	7.3	50.6	154.7	159.3	308.5	^{3.0}	57.8	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	5.1	72.8	3.9	7.5	46.0	134.5	163.1	295.2	^{8.3}	56.6	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	5.6	74.9	4.2	8.4	49.2	126.3	173.5	293.6	^{10.7}	53.1	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	5.2	66.3	3.9	7.4	41.7	126.5	128.1	247.9	^{3.8}	61.6	(NA)	(NA)
1977 Census	90	94	38	4.6	54.4	3.3	6.4	35.6	117.3	104.9	220.3	2.2	53.5	90	81
1976 ASM	(NA)	(NA)	(NA)	3.4	40.9	2.4	5.2	27.2	92.5	84.2	178.6	1.5	51.5	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	3.4	36.1	2.3	4.6	22.9	83.8	71.8	160.5	1.3	48.2	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	4.5	46.3	3.3	7.2	30.7	92.1	89.5	172.1	4.6	63.1	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	5.1	44.4	3.5	7.1	26.5	101.6	89.3	188.5	1.3	45.6	(NA)	(NA)
1972 Census	100	107	47	4.8	42.2	3.4	6.7	25.4	88.2	68.9	157.0	1.2	36.8	91	70
INDUSTRY 3585, REFRIGERATION AND HEATING EQUIPMENT ⁷															
1987 Census	(NA)	907	521	134.7	3 391.9	97.3	194.8	2 193.2	8 549.1	9 178.7	17 582.8	434.4	2 605.0	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	128.9	3 194.5	91.8	181.3	2 067.2	7 212.6	8 484.8	15 826.2	493.1	2 204.3	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	130.4	3 102.3	94.2	183.3	2 021.0	7 249.5	8 608.2	15 836.4	436.5	2 359.4	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	134.2	3 021.0	97.7	189.6	1 982.6	7 409.1	8 576.8	15 775.5	418.9	2 434.1	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	122.1	2 565.0	86.5	167.3	1 679.5	6 373.1	6 966.7	13 375.2	225.6	2 209.6	(NA)	(NA)
1982 Census	730	865	496	120.5	2 393.2	85.0	159.3	1 532.6	6 049.4	6 190.6	12 390.3	329.3	2 141.9	92	96
1981 ASM	(NA)	(NA)	(NA)	137.0	2 532.2	98.7	192.7	1 639.4	6 210.4	7 012.0	13 125.7	400.6	2 038.9	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	130.0	2 240.6	93.6	182.9	1 442.5	5 383.9	6 023.9	11 587.4	367.0	1 860.9	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	148.8	2 323.8	111.5	216.8	1 575.4	5 857.7	6 586.2	12 273.1	297.4	2 101.1	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	148.5	2 154.4	112.9	214.3	1 476.7	5 323.6	6 051.0	11 217.0	292.9	1 882.2	(NA)	(NA)
1977 Census	725	860	457	138.6	1 849.7	104.4	205.4	1 270.2	4 469.2	5 235.7	9 638.1	233.0	1 632.7	89	95
1976 ASM	(NA)	(NA)	(NA)	131.3	1 653.1	97.3	189.7	1 106.2	4 097.2	4 589.7	8 572.4	144.3	1 533.1	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	118.5	1 359.6	84.1	158.8	859.4	2 999.3	3 554.8	6 765.9	154.5	1 350.7	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	156.8	1 637.5	116.8	223.7	1 089.7	3 727.0	4 371.9	7 972.6	227.0	1 794.5	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	165.2	1 646.4	122.8	241.8	1 105.2	3 896.0	4 338.7	8 089.2	213.4	1 621.7	(NA)	(NA)
1972 Census	655	774	443	150.8	1 442.1	112.6	223.5	978.6	3 517.4	3 714.9	7 083.5	201.2	1 330.6	(NA)	(NA)
INDUSTRY 3586, MEASURING AND DISPENSING PUMPS															
1987 Census	(NA)	80	42	8.8	232.2	5.4	11.3	120.6	564.0	433.7	982.8	23.4	196.6	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	7.3	172.8	4.7	9.1	91.1	392.8	413.5	813.1	16.4	154.1	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	8.2	185.1	5.3	10.2	97.0	417.9	423.7	840.3	21.3	181.6	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	8.4	182.3	5.6	11.0	103.4	465.7	396.2	858.8	13.1	197.3	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	7.4	157.6	4.7	8.7	80.1	364.3	292.1	668.2	13.1	154.5	(NA)	(NA)
1982 Census	58	61	35	8.1	160.0	5.2	9.9	86.9	365.1	299.7	676.2	12.8	157.2	86	93
1981 ASM	(NA)	(NA)	(NA)	6.4	114.6	4.5	8.6	69.1	324.3	223.7	549.0	11.5	121.4	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	7.2	122.2	5.1	9.7	74.2	338.3	227.6	539.5	16.6	123.8	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	6.9	106.7	4.8	9.2	64.3	259.2	198.6	448.6	9.9	105.5	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	6.7	95.6	4.7	8.8	57.4	222.3	174.2	392.1	9.0	91.8	(NA)	(NA)
1977 Census	57	59	30	7.4	97.3	5.1	9.7	57.9	218.0	158.2	375.7	6.2	97.9	61	82
1976 ASM	(NA)	(NA)	(NA)	7.4	89.6	5.2	10.1	53.7	220.3	135.1	347.6	7.4	92.5	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	7.5	85.5	5.2	10.1	50.4	198.2	132.2	330.9	7.1	88.2	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	7.7	79.3	5.6	10.6	50.4	176.4	128.1	297.4	5.2	88.3	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	7.0	68.1	4.8	9.6	41.9	130.7	94.5	222.2	4.2	69.5	(NA)	(NA)
1972 Census	54	57	33	7.2	67.3	5.0	9.9	38.7	134.1	101.1	232.3	4.5	64.2	71	87
INDUSTRY 3589, SERVICE INDUSTRY MACHINERY, N.E.C.															
1987 Census	(NA)	924	320	34.3	834.4	20.9	42.3	387.5	1 792.5	1 717.7	3 858.1	86.2	698.7	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	31.7	736.4	19.1	36.5	345.5	1 815.4	1 611.7	3 428.3	58.0	630.5	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	31.6	694.5	19.5	37.9	337.4	1 669.2	1 568.6	3 214.7	65.0	613.3	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	31.5	876.9	19.4	38.1	335.9	1 587.5	1 429.2	2 991.3	80.2	564.3	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	30.5	589.5	17.9	33.6	287.4	1 306.8	1 245.5	2 570.1	50.0	501.1	(NA)	(NA)
1982 Census	791	832	287	31.0	584.0	17.8	33.5	283.0	1 321.3	1 235.4	2 583.0	54.6	516.6	93	88
1981 ASM	(NA)	(NA)	(NA)	34.7	605.7	21.8	41.0	309.1	1 347.9	1 254.7	2 571.4	83.7	499.4	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	35.1	552.2	22.2	42.6	282.9	1 242.2	1 172.9	2 418.3	^{72.4}	459.4	(NA)	(NA)

See footnotes at end of table.

Table 1. Historical Statistics for the Industry: 1987 and Earlier Years—Con.

[Excludes data for auxiliaries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix.]

Year ¹	Companies ² (no.)	All establishments ³		All employees		Production workers			Value added by manufac- ture ⁴ (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expend- itures (million dollars)	End-of- year inventories ⁴ (million dollars)	Ratios	
		Total (no.)	With 20 employ- ees or more (no.)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						Special- ization (per- cent)	Cover- age (per- cent)
INDUSTRY 3589, SERVICE INDUSTRY MACHINERY, N.E.C.—Con.															
1977 Census ----	959	988	277	32.1	411.8	19.2	36.9	208.6	946.4	849.3	1 771.8	38.5	365.9	91	90
1976 ASM -----	(NA)	(NA)	(NA)	22.5	279.1	14.0	27.0	142.3	648.1	593.6	1 224.0	22.7	254.0	(NA)	(NA)
1975 ASM -----	(NA)	(NA)	(NA)	21.2	243.3	12.7	23.8	120.8	504.0	522.7	1 045.3	16.8	210.4	(NA)	(NA)
1974 ASM -----	(NA)	(NA)	(NA)	22.1	235.5	14.0	27.0	122.6	531.7	476.3	993.6	27.9	230.9	(NA)	(NA)
1973 ASM -----	(NA)	(NA)	(NA)	25.0	249.5	15.2	30.5	129.5	548.5	468.2	993.5	17.8	213.6	(NA)	(NA)
1972 Census ----	666	706	232	24.4	228.8	15.0	29.3	115.9	503.6	422.8	913.8	15.7	184.4	90	87

Note: Establishments of single unit companies with up to 20 employees (cutoff varied by industry) were excluded from the mail portion of the census. Data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were estimated based on administrative-record information from other agencies in conjunction with industry averages. These establishments accounted for the following percent of total value of shipments: SIC 3581, 5%; SIC 3582, 7%; SIC 3585, 4%; SIC 3586, 7%; and SIC 3589, 13%.

¹In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1972, see 1972 Census of Manufactures, vol. II, table 1a of the Industry chapter.

²For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

³Includes establishments with payroll at any time during year.

⁴Beginning with the 1982 Census of Manufactures, all respondents were requested to report their inventories at (the lower of) cost or market prior to adjustment to LIFO cost. This is a change from prior Censuses and annual surveys of manufactures in which respondents were permitted to value their inventories using any generally accepted accounting method. Consequently, inventories and value added by manufacture are not comparable to prior-year data.

⁵Estimates for new capital expenditures have associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

⁶Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus, these estimates may be of limited reliability.

⁷Industry definition is new for 1987 Census of Manufactures. An explanation of the Standard Industrial Classification revision will appear in the final industry series text that supercedes this report.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text.]

1987 product code	Product	1987			1982		
		Number of companies with shipments of \$100,000 or more	Product shipments ¹		Number of companies with shipments of \$100,000 or more	Product shipments ¹	
			Quantity ²	Value (million dollars)		Quantity ²	Value (million dollars)
3581- --	AUTOMATIC MERCHANDISING MACHINES						
	Total -----	(NA)	(X)	700.9	(NA)	(X)	445.7
35811 --	Automatic merchandising machines:						
35811 00	Automatic merchandising machines, coin-operated (vending) (for additional detail, see Current Industrial Report MA-35U, Vending Machines (Coin-Operated)) -----	(NA)	(X)	506.7	34	(X)	334.1
35812 --	Coin-operated mechanisms and parts for automatic merchandising machines -----	(NA)	(X)	163.4	(NA)	(X)	96.2
35812 51	Coin-operated mechanisms for vending machines (for sale separately) ----- thousands ..	(NA)	(S)	103.8	14	565.0	60.5
35812 69	Parts for automatic merchandising machines, except coin-operated mechanisms -----	(NA)	(X)	58.6	16	(X)	35.3
35812 00	Coin-operated mechanisms and parts for automatic merchandising machines, n.s.k. -----	(NA)	(X)	1.0	(NA)	(X)	.4
35810 --	Automatic merchandising machines, n.s.k. -----	(NA)	(X)	30.8	(NA)	(X)	15.5
35810 00	Automatic merchandising machines, n.s.k., typically for establishments with 10 employees or more (see note) -----	(NA)	(X)	6.7	(NA)	(X)	4.1
35810 02	Automatic merchandising machines, n.s.k., typically for establishments with less than 10 employees (see note) -----	(NA)	(X)	24.1	(NA)	(X)	11.4
3582- --	COMMERCIAL LAUNDRY EQUIPMENT						
	Total -----	(NA)	(X)	430.3	(NA)	(X)	338.7
35820 --	Commercial laundry, dry cleaning, and pressing machinery and equipment:						
	Commercial laundry equipment and laundry presses, machines with a dry linen capacity exceeding 10 kg (22 lb):						
35820 21	Washers only ----- thousands ..	(NA)	] (S)	74.3	8	74.8	27.2
35820 22	Extractors only ----- do ..	(NA)			4	(S)	2.0
	Washer-extractor combinations:						
35820 13	Coin-operated, more than 22 lb load ----- thousands ..	(NA)	] *10.8	83.1	3	4.4	9.0
35820 14	Other than coin-operated ----- do ..	(NA)			9	6.0	71.1
	Drying tumblers:						
35820 17	Coin-operated, more than 22 lb load ----- thousands ..	(NA)	(S)	38.3	6	31.8	34.8
35820 18	Other than coin-operated ----- do ..	(NA)	(S)	31.3	8	18.9	20.9
35820 26	Ironers, flatwork ----- do ..	(NA)	(S)	14.2	11	1.2	16.6
35820 27	Presses, laundry ----- do ..	(NA)	*13.6	45.5	6	2.8	10.0
35820 28	Other commercial laundry equipment ----- do ..	(NA)	(S)	28.5	20	*4.0	28.7
	Parts, attachments, and accessories:						
35820 35	For washers, extractors, and combinations -----	(NA)	(X)	18.5	] 11	(X)	10.8
35820 36	For drying tumblers -----	(NA)	(X)	4.3			
35820 25	For other commercial laundry and pressing machinery and equipment, except dry cleaning -----	(NA)	(X)	11.9	16	(X)	30.0

Saa footnotes et end of table.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product	1987			1982		
		Number of companies with shipments of \$100,000 or more	Product shipments ¹		Number of companies with shipments of \$100,000 or more	Product shipments ¹	
			Quantity ²	Value (million dollars)		Quantity ²	Value (million dollars)
3582- --	COMMERCIAL LAUNDRY EQUIPMENT—Con.						
35820 --	Commercial laundry, dry cleaning, and pressing machinery and equipment—Con.						
	Dry cleaning equipment and clothing presses:						
35820 34	Dry cleaning units..... thousands..	(NA)	(S)	9.7	7	(S)	11.0
35820 41	Presses, dry cleaning..... do..	(NA)	(S)	10.6	3	3.1	9.8
35820 43	Garment manufacturers' (needle trades) presses..... do..	(NA)	(S)	12.8	6	(S)	10.7
35820 81	Other dry cleaning equipment, including reclaiming units..... do..	(NA)	(X)	11.7	11	(X)	17.5
35820 91	Parts, attachments, and accessories..... do..	(NA)	(X)	22.6	(NA)	(X)	20.0
35820 00	Commercial laundry equipment, n.s.k., typically for establishments with 10 employees or more (see note).....	(NA)	(X)	12.9	(NA)	(X)	8.6
35820 02	Commercial laundry equipment, n.s.k., typically for establishments with less than 10 employees (see note).....	(NA)	(X)				
3585- --	REFRIGERATION AND HEATING EQUIPMENT						
	Total.....	(NA)	(X)	15 930.2	(NA)	(X)	³11 150.7
35851 --	Heat transfer equipment (except electrically operated dehumidifiers), mechanically refrigerated, self-contained:						
35851 00	Heat transfer equipment (except electrically operated dehumidifiers), mechanically refrigerated, self-contained (for additional detail, see Current Industrial Report MA-35M, Air-Conditioning and Refrigeration Equipment).....	(NA)	(X)	3 947.6	152	(X)	2 908.0
35852 --	Unitary air-conditioners:						
35852 00	Unitary air-conditioners (for additional detail, see Current Industrial Report MA-35M, Air-Conditioning and Refrigeration Equipment).....	(NA)	(X)	3 330.3	65	(X)	1 972.1
35853 --	Commercial refrigerators and related equipment.....	(NA)	(X)	1 699.6	(NA)	(X)	1 070.8
	Refrigerated enclosures, including self-contained units, remote units with or without condensing units and cabinets:						
35853 12	Sectional coolers or cooling rooms of the prefabricated (factory produced) type, including walk-in, roll-in, and combination cooler-display types..... thousands..	(NA)	(S)	282.7	62	**67.9	223.3
	Reach-in refrigerators and reach-in type vertical display cabinets, with solid or glazed doors:						
35853 15	For normal temperature application, i.e., not intended for frozen foods, ice cream, etc..... thousands..	(NA)	*120.2	149.8	38	*128.5	142.4
35853 18	For low temperature application..... do..	(NA)	*104.0	186.8	32	43.5	94.9
	Display cases for meats, dairy products, produce, and other perishables, operated at normal temperatures:						
35853 22	Closed..... thousands..	(NA)	**30.9	41.6	19	**16.0	25.9
	Open self-service:						
35853 23	One level..... thousands..	(NA)	**48.6	119.4	8	*24.7	42.3
35853 28	Multilevel..... do..	(NA)	27.9	82.2	11	31.3	79.5
	Display cases and cabinets for frozen foods, ice cream, and other foods operated at low temperatures, except coin-operated:						
35853 31	Frozen food display cases, open, self-service:						
35853 33	One level..... thousands..	(NA)	(S)	98.5	9	13.2	38.1
35853 35	Multilevel..... do..	(NA)	(S)	64.6	10	11.8	49.3
35853 36	Frozen food cabinets, closed, other than reach-in type..... do..	(NA)	(S)	48.3	4	14.8	19.8
35853 38	Ice cream counter freezers, including frozen custard machines..... do..	(NA)	(S)	22.7	6	(S)	2.4
35853 43	Ice cream dispensing and hardening cabinets..... do..	(NA)	(S)	44.0	8	13.7	19.1
	Mechanical drinking water coolers (for additional detail, see Current Industrial Report MA-35M, Air-Conditioning and Refrigeration Equipment).....	(NA)	(X)	152.3	7	(X)	95.0
	Mechanical beverage cooling and dispensing equipment, except coin-operated:						
35853 52	Bottled beverage coolers, dry and wet types..... thousands..	(NA)	(S)	177.7	7	(S)	106.5
35853 57	Bulk beverage dispensers, including malt dispensers and pre-cooler cabinets..... do..	(NA)	*681.8	44.0	8	(S)	106.5
35853 73	Farm and dairy milk coolers, including immersion type and bulk tank storage coolers..... do..	(NA)	(D)	(*)	7	**8.6	13.2
35853 97	Other commercial refrigerators, including dough retarders, egg refrigerators, environmental control equipment, laboratory and industrial refrigerators, mortuary refrigerators, etc.....	(NA)	(X)	4205.0	33	(X)	87.0
35853 00	Commercial refrigerators and related equipment, n.s.k.....	(NA)	(X)	46.8	(NA)	(X)	32.1
35854 --	Compressors and compressor units, all refrigerants:						
35854 00	Compressors and compressor units, all refrigerants (for additional detail, see Current Industrial Report MA-35M, Air-Conditioning and Refrigeration Equipment).....	(NA)	(X)	2 561.3	43	(X)	1 734.7
35855 --	Refrigeration condensing units (complete):						
35855 00	Condensing units, all refrigerants, except ammonia (complete) (for additional detail, see Current Industrial Report MA-35M, Air-Conditioning and Refrigeration Equipment).....	(NA)	(X)	271.8	40	(X)	196.9
35856 --	Room air-conditioners and dehumidifiers:						
35856 00	Room air-conditioners and dehumidifiers, except portable dehumidifiers (for additional detail, see Current Industrial Report MA-35M, Air-Conditioning and Refrigeration Equipment).....	(NA)	(X)	894.2	23	(X)	897.5

See footnotes at end of table.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product	1987			1982		
		Number of companies with shipments of \$100,000 or more	Product shipments ¹		Number of companies with shipments of \$100,000 or more	Product shipments ¹	
			Quantity ²	Value (million dollars)		Quantity ²	Value (million dollars)
3585--	REFRIGERATION AND HEATING EQUIPMENT— Con.						
35859 --	Refrigeration and air-conditioning equipment, n.e.c.	(NA)	(X)	492.1	(NA)	(X)	428.9
35859 01	Soda fountain equipment (cooler box, fountainette, and similar equipment)	(NA)	(X)	97.7	13	(X)	80.5
35859 02	Beer dispensing equipment	(NA)	(X)	12.6	5	(X)	18.5
35859 03	Evaporative air coolers	(NA)	(X)	61.3	18	(X)	94.1
35859 04	Complete refrigeration systems shipped to other manufacturers for incorporation into a cabinet, vending machine, or household refrigerator	(NA)	(X)	(⁶)	6	(X)	60.9
35859 05	Snow making machinery	(NA)	(X)	-	36	(X)	174.9
35859 07	Other refrigeration machinery and air-conditioning equipment	(NA)	(X)	\$303.5		(X)	
35859 00	Refrigeration and air-conditioning equipment, n.e.c., n.s.k.	(NA)	(X)	17.0	(NA)	(X)	-
3585C --	Warm air furnaces, humidifiers, and electric comfort heating equipment						
3585C 00	Warm air furnaces, including duct furnaces; humidifiers, all types, including central systems and self-contained; and electric comfort heating equipment, excluding portable and residential wall or baseboard radiant heating units (for additional detail, see Current Industrial Report MA-35M, Air-Conditioning and Refrigeration Equipment)	(NA)	(X)	996.6	64	(X)	\$520.3
3585D --	Parts and accessories for air-conditioning and heat transfer equipment	(NA)	(X)	1 174.2	(NA)	(X)	\$893.0
3585D 10	Parts for heat transfer equipment, including parts for air-conditioning condensing units	(NA)	(X)	455.3	55	(X)	371.8
3585D 20	Parts for unitary air-conditioners	(NA)	(X)	122.4	29	(X)	147.2
3585D 30	Parts for commercial refrigeration and related equipment	(NA)	(X)	134.3	41	(X)	101.2
3585D 40	Parts for compressors and compressor units	(NA)	(X)	106.3	18	(X)	72.9
3585D 50	Parts for condensing units, excluding air-conditioning condensing units	(NA)	(X)	4.7	4	(X)	4.7
3585D 60	Parts for dehumidifiers and room air-conditioners	(NA)	(X)	60.2	13	(X)	20.9
3585D 70	Parts for refrigeration and air-conditioning equipment, n.e.c.	(NA)	(X)	148.5	26	(X)	57.5
3585D 80	Parts for warm air furnaces, including duct furnaces (excluding complete humidifiers)	(NA)	(X)	73.0	30	(X)	\$48.8
3585D 00	Parts and accessories for air-conditioning and heat transfer equipment, n.s.k.	(NA)	(X)	69.3	(NA)	(X)	68.0
35850 --	Refrigeration and heating equipment, n.s.k.	(NA)	(X)	562.3	(NA)	(X)	528.5
35850 00	Refrigeration and heating equipment, n.s.k., typically for establishments with 10 employees or more (see note)	(NA)	(X)	331.9	(NA)	(X)	405.4
35850 02	Refrigeration and heating equipment, n.s.k., typically for establishments with less than 10 employees (see note)	(NA)	(X)	230.4	(NA)	(X)	123.1
3586--	MEASURING AND DISPENSING PUMPS						
	Total	(NA)	(X)	902.8	(NA)	(X)	590.7
35860 --	Measuring and dispensing pumps: Gasoline dispensing pumps, computing type (filling station type):						
	Single units:						
35860 13	With suction pumping unit	(NA)	30.2	173.4	7	25.5	60.3
35860 14	Without suction pumping unit	(NA)			6	*12.1	25.0
	Multiple units:						
35860 15	With suction pumping unit	(NA)	(S)	206.6	5	44.7	135.1
35860 16	Without suction pumping unit	(NA)					
35860 31	Lubricating oil pumps, including barrel pumps	(NA)	**5 155.8	36.3	5	(NA)	(⁶)
35860 51	Grease guns	(NA)			6	(S)	32.1
35860 89	Other measuring and dispensing pumps (including noncomputing gasoline dispensing pumps, grease pumps, and lubrication oil outfits)	(NA)	(S)	114.9	33	(S)	*177.3
35860 91	Parts and attachments for measuring and dispensing pumps	(NA)	(X)	265.5	20	(X)	134.3
35860 00	Measuring and dispensing pumps, n.s.k., typically for establishments with 10 employees or more (see note)	(NA)	(X)	49.5	(NA)	(X)	21.8
35860 02	Measuring and dispensing pumps, n.s.k., typically for establishments with less than 10 employees (see note)	(NA)	(X)	29.1	(NA)	(X)	4.8
3589--	SERVICE INDUSTRY MACHINERY, N.E.C.						
	Total	(NA)	(X)	3 813.3	(NA)	(X)	2 550.4
35891 --	Commercial cooking and food-warming equipment	(NA)	(X)	1 080.6	(NA)	(X)	609.0
	Nonelectric:						
35891 11	Commercial ranges, ovens, and broilers (except electric) .. thousands..	(NA)	(S)	257.8	20	*90.7	95.7
35891 13	Deep-fat fryers (except electric)	(NA)	(S)	88.7	11	45.9	31.2
35891 30	Other commercial cooking equipment, including griddles, toasters, coffee urns, pressure cookers (steam), etc. (except electric)	(NA)	(S)	47.0	20	**50.1	60.7
35891 31	Commercial food-warming equipment, including steam tables (except electric)	(NA)	(X)	25.0	7	(X)	16.1
	Electric:						
35891 61	Commercial ranges, ovens, and broilers	(NA)	(S)	135.6	5	*78.0	68.5
35891 63	Commercial microwave stoves and ovens	(NA)					
35891 67	Deep-fat fryers	(NA)	(S)	70.8	16	*113.7	27.9
35891 70	Other commercial cooking equipment, including griddles, toasters, coffee makers, coffee urns, etc.	(NA)	(S)	208.3	33	*385.3	105.8
35891 81	Commercial food-warming equipment, including hot food server units and steam tables	(NA)	(X)	158.7	31	(X)	101.9

See footnotes at end of table.

Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982—Con.

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product	1987			1982		
		Number of companies with shipments of \$100,000 or more	Product shipments ¹		Number of companies with shipments of \$100,000 or more	Product shipments ¹	
			Quantity ²	Value (million dollars)		Quantity ²	Value (million dollars)
3589—	SERVICE INDUSTRY MACHINERY, N.E.C.—Con.						
35891 —	Commercial cooking and food-warming equipment—Con.						
35891 85	Parts and accessories for commercial cooking and food-warming equipment	(NA)	(X)	80.0	31	(X)	88.2
35891 00	Commercial cooking and food-warming equipment, n.s.k.	(NA)	(X)	8.8	(NA)	(X)	33.0
35892 —	Service industry machines and parts	(NA)	(X)	2 052.1	(NA)	(X)	1 568.4
35892 03	Water heaters (excluding boilers and instantaneous):						
35892 04	Electric (more than 120 gallons) (454.2 liters) ————— thousands ..	(NA)	(7)	(7)			
35892 04	All other (more than 120 gallons) (454.2 liters) ————— do ..	(NA)	*104.5	*67.6			
35892 05	Water heaters, instantaneous:						
35892 06	Gas ————— thousands ..	(NA)	(X)	13.9	(NA)	194.1	59.9
35892 06	Electric and other ————— do ..	(NA)	(S)	1.3			
35892 07	Parts for water heaters (excluding tanks, burners) ————— do ..	(NA)	(X)	4.9	(NA)	(X)	(⁹)
35892 22	Water softeners:						
35892 22	Industrial ————— thousands ..	(NA)	(S)	109.8	19	(S)	112.8
35892 26	Farm, household, and commercial ————— do ..	(NA)	(S)	109.0	19	(S)	96.3
35892 27	Parts for water softeners (excluding tanks) ————— do ..	(NA)	(X)	19.0	(NA)	(X)	(⁹)
35892 35	Commercial and industrial floor and carpet cleaning equipment:						
35892 35	Waxing and polishing machines ————— thousands ..	(NA)	(S)	(⁹)	14	167.7	34.4
35892 42	Sanding and scrubbing machines ————— do ..	(NA)	(S)	69.5	8	114.2	26.8
35892 43	Carpet cleaning equipment, including sweepers (except vacuum cleaners) ————— do ..	(NA)	(NA)	*349.9	(NA)	(NA)	(¹⁰)
35892 44	Other machines (except vacuum cleaners) ————— do ..	(NA)	(NA)	*181.3	(NA)	(NA)	(¹⁰)
35892 45	Parts and attachments ————— do ..	(NA)	(X)	50.8	(NA)	(X)	(⁹)
35892 73	Dishwashing machines, commercial type:						
35892 73	Conveyor type ————— thousands ..	(NA)	(S)	29.8	9	(S)	41.0
35892 75	All other ————— do ..	(NA)	(S)	52.1	13	(S)	33.7
35892 76	Parts for dishwashing machines ————— do ..	(NA)	(X)	14.4	(NA)	(X)	(⁹)
35892 77	Sewer pipe and drain cleaning equipment:						
35892 77	Power-driven ————— thousands ..	(NA)					
35892 78	Hand operated:						
35892 78	Professional equipment ————— thousands ..	(NA)	(S)	47.8	14	39.3	33.8
35892 79	Other ————— do ..	(NA)					
35892 80	Parts, except of coiled wire ————— do ..	(NA)	(X)	7.3	(NA)	(X)	(⁹)
35892 85	High-pressure (more than 1,000 p.s.i.) cleaning equipment (except laundry):						
35892 85	Sand blasting machines ————— thousands ..	(NA)					
35892 87	Soot removing machines ————— do ..	(NA)	(S)	52.8	36	(S)	121.9
35892 88	Other, including steam and similar ————— do ..	(NA)					
35892 91	Parts for high-pressure cleaning equipment ————— do ..	(NA)	(X)	14.7	(NA)	(X)	(⁹)
35892 82	Other service industry machines:						
35892 82	Commercial car, truck, and bus washing machinery and equipment ————— thousands ..	(NA)	(S)	90.4	22	(S)	48.3
35892 83	Garbage and trash compactors ————— do ..	(NA)	(X)	78.3	21	(S)	39.8
35892 81	Sewage treatment equipment ————— do ..	(NA)	(X)	390.3	54	(X)	275.6
35892 98	Other equipment ————— thousands ..	(NA)	(S)	307.3	(NA)	(NA)	¹⁰ 464.5
35892 99	Parts for other service industry machines ————— do ..	(NA)	(X)	50.5	(NA)	(X)	¹⁰ 137.6
35892 00	Service industry machines, n.s.k. ————— do ..	(NA)	(X)	138.8	(NA)	(X)	40.7
35893 —	Commercial and industrial vacuum cleaners, including parts and attachments	(NA)	(X)	269.2	(NA)	(X)	192.9
35893 01	Portable:						
35893 02	Complete machine ————— thousands ..	(NA)	(S)	208.8			
35893 02	Parts and attachments ————— do ..	(NA)	(X)	44.5	38	(S)	179.7
35893 08	Central system:						
35893 08	Complete central vacuum unit ————— thousands ..	(NA)	(S)	8.5			
35893 09	Parts and attachments ————— do ..	(NA)	(X)	3.8	7	11.9	7.1
35893 00	Commercial and industrial vacuum cleaners, n.s.k. ————— do ..	(NA)	(X)	3.7	(NA)	(X)	8.1
35890 —	Service industry machinery, n.e.c., n.s.k.	(NA)	(X)	411.4	(NA)	(X)	180.1
35890 00	Service industry machinery, n.e.c., n.s.k., typically for establishments with 10 employees or more (see note)	(NA)	(X)	270.2	(NA)	(X)	119.9
35890 02	Service industry machinery, n.e.c., n.s.k., typically for establishments with less than 10 employees (see note)	(NA)	(X)	141.2	(NA)	(X)	60.2

Note: In 1987 Census of Manufactures, data for establishments of small single unit companies with up to 20 employees were estimated from administrative-record data rather than data actually collected from respondents. Employment cutoffs used for administrative records for each industry and shipments figures are included in code ending with "002". In both 1987 and 1982 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (five-digit) followed by "00" or to appropriate product group code (four-digit) followed by "000".

¹Data reported by all producers, not just those with shipments of \$100,000 or more.
²For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * 10 to 19 percent estimated; ** 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

³For 1982, data for product codes 3585—, 3595C 00, 3595D —, and 3585D 80 have been revised to include data for electric comfort heating equipment and parts thereof. In 1982, these data were classified in SIC industry 3899, Electric Equipment and Supplies, N.E.C., and published under product codes 38993 00, Electric Heating Comfort Equipment, and 38994 07, Parts for Electric Comfort Heating Equipment, Excluding Portable and Residential Wall or Baseboard Radiant Heating Units.

⁴For 1987, data for product code 35853 73 have been combined with product code 35853 97 to avoid disclosing data for individual companies.
⁵For 1987, data for product code 35859 04 have been combined with product code 35859 07 to avoid disclosing data for individual companies.

⁶For 1982, data for product code 35860 31 have been published separately but were included with product code 35860 89.

⁷For 1987, data for product code 35892 03 have been combined with product code 35892 04 to avoid disclosing data for individual companies.

⁸For 1982, data for product codes 35892 07, 35892 27, 35892 45, 35892 78, 35892 80, and 35892 91 were not collected separately but were included with product code 35892 99.

⁹For 1987, data for product codes 35892 35 and 35892 44 have been combined to avoid disclosing data for individual companies.

¹⁰For 1982, data for product codes 35892 43 and 35892 44 were not collected separately but were included with product code 35892 98.

Table 3. Materials Consumed by Kind: 1987 and 1982

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 material code	Material	1987		1982	
		Quantity ¹	Delivered cost (million dollars)	Quantity ¹	Delivered cost (million dollars)
	INDUSTRY 3581, AUTOMATIC VENDING MACHINES				
	Materials, parts, containers, and supplies	(X)	360.0	(X)	250.1
	Mill shapes and forms, except castings and forgings:				
	Carbon steel:				
331011	Bars and bar shapes 1,000 s tons..	*2.1	.9	*3.8	1.5
331012	Sheet and strip do..	(S)	27.6	*46.5	25.1
331058	All other carbon steel mill shapes and forms do..	(D)	(³)	(S)	12.7
331031	Stainless steel do..	(S)	2.5	1.0	2.5
335001	Aluminum and aluminum-base alloy mill shapes and forms mil lb..	*1.4	2.4	1.0	3.0
	Fractional horsepower electric motors and generators (less than 1 hp):				
362110	Timing motors, synchronous and subsynchronous thousands..	(S)	5.0	(S)	.8
362115	Other fractional horsepower electric motors, excluding timing motors do..	*2 927.7	20.9	*724.1	11.0
358501	Compressors, compressor units, condensing units, fin coils, and other heat transfer equipment do..	(X)	16.7	(X)	13.4
305201	Rubber and plastics hose and belting do..	(X)	.8	(X)	1.8
308007	Plastics products consumed in the form of sheets, rods, tubes, and other shapes do..	(X)	19.3	(X)	7.3
345001	Bolts, nuts, screws, rivets, and screw machine products do..	(X)	24.5	(X)	7.7
364300	Current-carrying wiring devices do..	(X)	11.6	(X)	2.9
346901	Metal stampings 1,000 s tons..	(S)	6.5	(NA)	5.5
244021	Wooden boxes, skids, pallets, and containers (including combination of wood and paperboard) do..	(X)	2.4	(X)	.9
260091	Paper and paperboard containers (including shipping sacks and other paper packing supplies) do..	(X)	3.1	(X)	2.6
970099	All other materials and components, parts, containers, and supplies do..	(X)	³ 173.4	(X)	102.3
971000	Materials, parts, containers, and supplies, n.s.k. ²	(X)	42.4	(X)	49.1
	INDUSTRY 3582, COMMERCIAL LAUNDRY EQUIPMENT				
	Materials, parts, containers, and supplies	(X)	186.4	(X)	132.4
	Mill shapes and forms, except castings and forgings:				
	Carbon steel:				
331011	Bars and bar shapes 1,000 s tons..	(S)	3.0	(S)	1.2
331012	Sheet and strip do..	(S)	14.7	(S)	5.9
331013	Plates do..	*7.5	3.4	**3.5	1.4
331006	All other carbon steel mill shapes and forms do..	(S)	4.4	(S)	3.4
331031	Stainless steel mill shapes and forms do..	(S)	11.2	(S)	(⁴)
335001	Aluminum and aluminum-base alloy mill shapes and forms mil lb..	(S)	1.6	(S)	1.2
	Castings (rough and semifinished):				
332001	Iron (gray and malleable) and steel castings 1,000 s tons..	(S)	1.9	}	5.8
336002	Other nonferrous mil lb..	(S)	1.7		
	Electric motors and generators:				
362115	Fractional horsepower electric motors, excluding timing motors thousands..	(S)	5.3	(S)	4.1
362120	Integral horsepower motors and generators (1 hp or more) do..	(S)	6.7	(S)	5.3
305201	Rubber and plastics hose and belting do..	(X)	5.4	(X)	1.0
356810	Plain bearings and bushings do..	(X)	4.4	(X)	1.9
356601	Speed changers, drives, and gears do..	(X)	4.1	(X)	1.0
345001	Bolts, nuts, screws, rivets, and screw machine products do..	(X)	2.5	(X)	1.5
364300	Current-carrying wiring devices do..	(X)	7.9	(X)	1.0
360101	Electrical transmission, distribution, and control equipment do..	(X)	14.3	(X)	3.9
346901	Metal stampings do..	(X)	4.4	(X)	1.1
349402	Fabricated metal pipe, valves, and pipe fittings, except plumbers' fittings do..	(X)	6.6	(X)	2.1
244021	Wooden boxes, skids, pallets, and containers (including combination of wood and paperboard) do..	(X)	2.7	(X)	1.2
970099	All other materials and components, parts, containers, and supplies do..	(X)	32.9	(X)	⁴ 45.0
971000	Materials, parts, containers, and supplies, n.s.k. ²	(X)	47.3	(X)	44.4
	INDUSTRY 3585, REFRIGERATION AND HEATING EQUIPMENT				
	Materials, parts, containers, and supplies	(X)	8 349.5	(X)	5 555.6
	Mill shapes and forms, except castings and forgings:				
	Carbon steel:				
331011	Bars and bar shapes 1,000 s tons..	**100.9	45.9	**56.7	33.2
331012	Sheet and strip do..	*701.0	412.7	(S)	328.4
331013	Plates do..	(S)	32.9	*42.0	23.0
331015	Structural shapes do..	(S)	11.5	(S)	6.9
331017	Wire and wire products do..	(S)	20.7	(S)	10.6
331019	All other carbon steel mill shapes and forms do..	**47.8	47.6	(S)	37.4
331020	Alloy steel, except stainless do..	*32.7	26.9	*31.2	12.4
	Stainless steel:				
331033	Sheet and strip 1,000 s tons..	(S)	87.9	(S)	51.2
331050	All other stainless steel mill shapes and forms do..	(S)	17.5	(S)	11.2
	Copper and copper-base alloy:				
335728	Bare wire for electrical conduction mil lb..	*3.3	6.6	(S)	11.2
335102	Rod, bar, and mechanical wire, including extruded and/ or drawn shapes do..	(S)	3.9	(S)	17.3
335143	Plate, sheet, and strip, including military cups and discs do..	95.7	90.5	61.6	56.0
335152	Pipe and tube do..	*244.5	239.3	(S)	170.5

See footnotes at end of table.

Table 3. Materials Consumed by Kind: 1987 and 1982—Con.

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 material code	Material	1987		1982	
		Quantity ¹	Delivered cost (million dollars)	Quantity ¹	Delivered cost (million dollars)
	INDUSTRY 3585, REFRIGERATION AND HEATING EQUIPMENT—Con.				
	Mill shapes and forms, except castings and forgings—Con.				
	Aluminum and aluminum-base alloy:				
335301	Sheet, plate, and foil ----- mil lb..	*338.1	350.8	(S)	207.0
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc. ----- do..	65.1	97.6	(S)	72.1
335008	All other aluminum mill shapes and forms, (wire, rolled rod and bar, powder, welded tubing, etc.) ----- do..	**27.4	20.4	(S)	25.8
335791	Insulated copper wire and cable (except magnet wire) ----- do..		7.0	(S)	4.7
	Castings (rough and semifinished):				
332011	Iron (gray and malleable) ----- 1,000 s tons..	(S)	128.4	(S)	109.2
332045	Steel ----- do..	(S)	10.4	*10.8	9.6
336005	Aluminum and aluminum-base alloy ----- mil lb..	91.3	149.6	*58.0	81.8
336006	Copper and copper-base alloy ----- do..	9.7	9.1	(S)	11.2
336008	Other nonferrous ----- do..	2.4	1.7	*4.9	2.0
339915	Metal powders ----- do..	(S)	10.4	**8.6	8.7
346200	Iron and steel forgings ----- 1,000 s tons..	(S)	28.0	**16.3	25.3
358501	Compressors, compressors units, fin coils, and other heat transfer equipment -----	(X)	1 127.4	(X)	660.9
	Electric motors and generators:				
	Fractional horsepower electric motors (less than 1 hp):				
362110	Timing motors, synchronous and subsynchronous ----- thousands..	(S)	52.9	(S)	45.6
362115	Fractional horsepower electric motors, excluding timing motors ----- do..	*26 356.3	441.7	*20 161.1	346.1
362120	Integral horsepower motors and generators (1 hp or more) ----- do..	*9 716.4	298.2	(S)	213.3
	Bearings, including mounted and unmounted:				
356218	Ball -----	(X)	63.2	(X)	35.4
356201	Roller -----	(X)	2.6	(X)	25.5
260091	Paper and paperboard containers -----	(X)	94.1	(X)	53.0
242101	Rough and dressed lumber ----- mil bd ft..	(S)	19.6	(S)	17.1
244021	Wooden containers, complete, including combination wood and paperboard -----	(X)	44.5	(X)	14.1
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes ----- mil lb..	*92.0	47.3	76.3	37.7
285101	Paints, varnishes, lacquers, shellacs, japans, and enamels -----	(X)	51.9	(X)	29.2
286903	Refrigerant gases and other synthetic organic chemicals -----	(X)	47.8	(X)	43.7
305201	Rubber and plastics hose and belting -----	(X)	62.7	(X)	20.7
308006	Fabricated plastics products, except gaskets, hose, and belting -----	(X)	143.7	(X)	54.4
308007	Plastics products consumed in the form of sheets, rods, tubes, and other shapes -----	(X)	47.6	(X)	31.5
306902	Fabricated rubber products, except tires, tubes, hose, belting, and gaskets -----	(X)	25.3	(X)	20.8
329300	Gaskets, all types, and asbestos packing -----	(X)	52.7	(X)	13.4
329601	Mineral wool insulation (fibrous glass, rock wool, etc.) -----	(X)	44.7	(X)	19.4
342903	Metal hardware, including hinges, handles, locks, casters, etc. -----	(X)	35.0	(X)	22.0
345001	Bolts, nuts, screws, rivets, washers, and screw machine products -----	(X)	151.3	(X)	94.7
346901	Metal stampings -----	(X)	215.3	(X)	142.2
349402	Fabricated metal pipe, valves, and pipe fittings -----	(X)	158.8	(X)	58.7
356401	Fans and blowers -----	(X)	119.9	(X)	79.3
360101	Electrical transmission, distribution, and control equipment -----	(X)	256.1	(X)	182.4
364300	Current-carrying wiring devices -----	(X)	99.6	(X)	78.4
382201	Automatic temperature controls, thermostats, regulators, etc. -----	(X)	255.2	(X)	133.5
970099	All other materials and components, parts, containers, and supplies -----	(X)	1 560.9	(X)	963.7
971000	Materials, parts, containers, and supplies, n.s.k. ² -----	(X)	972.2	(X)	792.4
	INDUSTRY 3586, MEASURING AND DISPENSING PUMPS				
	Materials, parts, containers, and supplies -----	(X)	392.0	(X)	267.4
	Mill shapes and forms, except castings and forgings:				
	Carbon steel:				
331011	Bars and bar shapes ----- 1,000 s tons..	(S)	3.9	(S)	7.5
331012	Sheet and strip ----- do..	(S)	7.4	(S)	8.4
331013	Plates ----- do..	(S)	(⁶)	(S)	1.1
331015	Structural shapes ----- do..	(S)	(⁶)	(S)	2.8
331055	All other ----- do..	6**4.6	53.3	2.1	
	Alloy steel, except stainless:				
331021	Bars and bar shapes ----- 1,000 s tons..	(S)	.5	.2	.2
331029	All other alloy steel mill shapes and forms ----- do..				
	Stainless steel:				
331033	Sheet and strip ----- 1,000 s tons..	*5.9	5.4	(S)	8.6
331050	All other stainless steel mill shapes and forms ----- do..	(S)	.9	(S)	.6
	Copper and copper-base alloy:				
335102	Rod, bar, and mechanical wire, including extruded rod, bar, pipe, tube, etc. ----- mil lb..	(S)	3.3	(D)	(⁶)
335143	Plate, sheet, and strip, including military cups and discs ----- do..			(D)	(⁶)
335152	Pipe and tube ----- do..			(Z)	(Z)
	Aluminum and aluminum-base alloy:				
335405	Extruded shapes, including extruded rod, bar, pipe, tube, etc. ----- mil lb..	(S)	.4	(S)	.2
335007	All other (sheet, plate, foil, wire, rolled rod and bar, powder, welded tubing, etc.) ----- do..	(S)	3.8	.1	.7
335609	Nonferrous metal mill shapes and forms, except copper and aluminum ----- 1,000 s tons..	(S)	(Z)	(D)	(⁶)

See footnotes at end of table.

Table 3. Materials Consumed by Kind: 1987 and 1982—Con.

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 material code	Material	1987		1982	
		Quantity ¹	Delivered cost (million dollars)	Quantity ¹	Delivered cost (million dollars)
INDUSTRY 3586, MEASURING AND DISPENSING PUMPS—Con.					
Primary metals:					
331051	Pig iron, excluding silvery iron ----- 1,000 s tons--	-	-	-	-
333122	Copper and copper-base alloy refinery shapes ----- do--	-	-	-	-
335792	Insulated copper wire and cable, except magnet wire (quantity of copper content) ----- mil lb--	(S)	.2	**1	.2
339915	Metal powders ----- do--	-	-	(Z)	(Z)
190023	Iron and steel scrap, excluding home scrap ----- 1,000 s tons--	-	-	-	-
Castings (rough and semifinished):					
332011	Iron (gray and malleable) ----- 1,000 s tons--	(S)	6.6	(S)	12.4
332045	Steel ----- do--	(D)	(7)	(D)	(9)
336005	Aluminum and aluminum-base alloy ----- mil lb--	(S)	9.3	(S)	8.9
336006	Copper and copper-base alloy ----- do--	(S)	.4	(D)	(9)
336008	Other nonferrous ----- do--	(S)	2.8	(S)	1.4
346200	Iron and steel forgings ----- 1,000 s tons--	(D)	(7)	(Z)	(Z)
346701	Metal stampings ----- do--	(S)	2.1	(S)	1.2
Engines:					
351920	Diesel and semidiesel ----- thousands--	-	-	-	-
351901	Gasoline and other carburetor engines ----- do--	(D)	(7)	-	-
Electric motors and generators:					
362115	Fractional horsepower electric motors (less than 1 hp), excluding timing motors ----- thousands--	(S)	5.9	*645.0	12.9
362120	Integral horsepower motors and generators (1 hp or more) ----- do--	**7.4	1.0	(S)	.2
Bearings, including mounted and unmounted:					
356218	Ball -----	(X)	1.7	(X)	1.6
356201	Roller -----	(X)	1.1	(X)	1.1
356810	Plain bearings and bushings -----	(X)	2.6	(S)	2.3
356601	Speed changers, drives, gears, industrial high-speed drivers -----	(X)	8.6	(X)	3.9
265001	Paperboard containers, boxes, and corrugated paperboard -- 1,000 s tons--	(S)	2.6	(S)	2.3
305201	Rubber and plastics hose and belting -----	(X)	8.6	(X)	3.9
306902	Fabricated rubber products (except tires, tubes, belts, hosing, and gaskets) -----	(X)	3.4	(X)	.8
308006	Fabricated plastics products (except gaskets, hose, and belting) -----	(X)	3.8	(X)	3.1
345001	Bolts, nuts, screws, rivets, and screw machine products -----	(X)	7.2	(X)	1.9
344301	Metal tanks, heat exchangers, steam condensers, and other boiler products, fabricated steel plate, and weldments -----	(X)	.3	(X)	.6
349402	Fabricated metal pipe, valves, and pipe fittings -----	(X)	6.3	(X)	4.0
354501	Cutting tools for machine tools -----	(X)	1.7	(X)	.7
356101	Pumps and pump parts used as materials -----	(X)	19.7	(X)	3.0
356301	Air and gas compressors, except refrigeration ----- thousands--	(Z)	(Z)	-	-
329300	Gaskets (all types) and asbestos packing -----	(X)	1.1	(X)	.5
360101	Electrical transmission, distribution, and control equipment -----	(X)	2.4	(X)	(9)
357001	Electronic computing equipment and parts -----	(X)	(7)	(X)	(9)
970099	All other materials and components, parts, containers, and supplies -----	(X)	7182.6	(X)	*151.2
971000	Materials, parts, containers, and supplies, n.s.k. ² -----	(X)	92.3	(X)	25.4
INDUSTRY 3589, SERVICE INDUSTRY MACHINERY, N.E.C.					
Materials, parts, containers, and supplies -----					
		(X)	1 490.8	(X)	1 092.7
Mill shapes and forms, except castings and forgings:					
Carbon steel:					
331011	Bars and bar shapes ----- 1,000 s tons--	(S)	7.3	(S)	7.7
331012	Sheet and strip ----- do--	(S)	34.8	(S)	26.3
331013	Plates ----- do--	(S)	20.0	(S)	13.0
331015	Structural shapes ----- do--	(S)	11.0	22.1	18.1
331017	Wire and wire products ----- do--	(S)	6.4	(S)	7.1
331019	All other carbon steel mill shapes and forms ----- do--	(S)	5.3	(S)	4.6
331020	Alloy steel, except stainless ----- do--	(S)	20.0	**5.5	2.5
Stainless steel:					
331033	Sheet and strip ----- 1,000 s tons--	**48.6	65.8	(S)	44.9
331050	All other stainless steel mill shapes and forms ----- do--	(S)	17.7	(S)	15.9
Aluminum and aluminum-base alloy:					
335301	Sheet, plate, and foil ----- mil lb--	(S)	16.7	(S)	6.2
335007	All other aluminum mill shapes and forms (extruded shapes, wire, rod, bar, powder, pipe, tubing, etc.) ----- do--	(S)	9.8	.8	8.6
Castings (rough and semifinished):					
332011	Iron (gray and malleable) ----- 1,000 s tons--	(S)	13.5	(S)	16.3
332045	Steel ----- do--	(S)	4.2	**3.5	6.8
336005	Aluminum and aluminum-base alloy ----- mil lb--	(S)	10.6	(S)	11.9
336006	Copper and copper-base alloy ----- do--	(S)	1.7	(S)	3.9
336008	Other nonferrous ----- do--	(S)	3.0	(S)	.7
Electric motors and generators:					
362110	Fractional horsepower electric motors (less than 1 hp): Timing motors, synchronous and subsynchronous ----- thousands--	(S)	7.3	(S)	9.1
362115	Other fractional horsepower electric motors, excluding timing motors ----- do--	(S)	18.4	(S)	30.0
362120	Integral horsepower motors and generators (1 hp or more) ----- do--	(S)	30.6	(S)	22.1
356104	Pumps, complete assemblies (except fluid power) ----- do--	(S)	24.4	(S)	12.7
358501	Compressors, compressor units, condensing units, fin coils, and other heat transfer equipment -----	(X)	13.9	(X)	3.6
335792	Insulated copper wire and cable, except magnet wire (quantity in copper content) ----- mil lb--	(S)	7.3	(S)	4.1
305201	Rubber and plastics hose and belting -----	(X)	8.2	(X)	5.1
308007	Plastics products consumed in the form of sheets, rods, tubes, and other shapes -----	(X)	23.7	(X)	29.5

See footnotes at end of table.

Table 3. Materials Consumed by Kind: 1987 and 1982—Con.

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 material code	Material	1987		1982	
		Quantity ¹	Delivered cost (million dollars)	Quantity ¹	Delivered cost (million dollars)
	INDUSTRY 3589, SERVICE INDUSTRY MACHINERY, N.E.C.—Con.				
282104	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc., but excluding sheets, rods, tubes, and shapes mil lb..	**31.1	33.3	(S)	25.2
356810	Plain bearings and bushings	(X)	9.2	(X)	5.6
356601	Speed changers, drives, and gears	(X)	16.7	(X)	13.2
345001	Bolts, nuts, screws, rivets, and screw machine products	(X)	30.9	(X)	15.5
364300	Current-carrying wiring devices	(X)	16.1	(X)	13.7
360101	Electrical transmission, distribution, and control equipment	(X)	41.6	(X)	25.2
346901	Metal stampings 1,000 s tons..	(S)	7.2	(NA)	8.0
349402	Fabricated metal pipe, valves, and pipe fittings, except plumbers' fittings.....	(X)	36.5	(X)	29.0
244021	Wooden boxes, skids, pallets, and containers (including combination of wood and paperboard)	(X)	7.7	(X)	5.0
260091	Paper and paperboard containers (including shipping sacks and other paper packing supplies)	(X)	17.2	(X)	17.2
970099	All other materials and components, parts, containers, and supplies.....	(X)	427.5	(X)	349.9
971000	Materials, parts, containers, and supplies, n.s.k. ²	(X)	465.3	(X)	274.5

¹For some establishments, data have been estimated from central unit values which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * 10 to 19 percent estimated; ** 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

²Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

³For 1987, data for material code 330158 have been combined with material code 970099 to avoid disclosing data for individual companies.

⁴For 1982, data for material code 331031 were not available separately but were included with material code 970099.

⁵For 1987, data for material codes 331013 and 331015 have been combined with material code 331055 to avoid disclosing data for individual companies.

⁶For 1982, data for material codes 335102, 335143, 335609, 332045, 336066 360101, and 357001 were combined with material code 970099.

⁷For 1987, data for material code 351901 have been included with material code 970099 to avoid disclosing data for individual companies.



APPENDIX

Scope and Coverage and Explanation of Terms

GENERAL

The 1987 Census of Manufactures is the 32nd census of manufacturing establishments conducted in the United States. For 1987, it was conducted as part of the economic censuses, which included the censuses of mineral industries, construction industries, retail and wholesale trades, service industries, selected transportation activities, and minority-owned and women-owned businesses, under authority of title 13 of the United States Code. Title 13 specifies that an economic census be conducted every 5 years to cover years ending in 2 and 7.

SCOPE AND COVERAGE

Establishment Basis of Reporting

The census of manufactures is conducted on an establishment basis. All manufacturing establishments with one paid employee or more at any time during the year are covered by the census of manufactures. Therefore, a company operating at more than one location is required to file a separate report for each location. This report excludes information for separately operated administrative offices, warehouses, garages, and other auxiliary units which service manufacturing establishments of the same company. Where these auxiliary operations are conducted at the same location as the manufacturing operation, they are usually included in the report for the operating manufacturing establishment.

Use of Administrative Records

From a universe of approximately 350,000 manufacturing establishments in the 1987 Census of Manufactures, approximately 150,000 small single-establishment companies were excused from filing reports. Selection of the small establishment nonmail cases was done on an industry-by-industry basis. A variable cutoff was used to determine those establishments for which administrative records were to be used in place of a census report. The cutoffs were selected so the administrative-record cases would account for approximately 3 percent or less of the value of shipments for the industry. These cutoffs were then adjusted so that all single-establishment companies with less than 5 employees were excluded from the mail canvass, while all establishments with more than 20 employees were included. Where establishments in the 5 to 20 employee size range were included in the mail canvass, an abbreviated census form was frequently used.

For these nonmail establishments, (and a small number of larger establishment whose reports were not received at the time the data were tabulated) data on employment, payroll, and receipts were obtained from administrative records of other government agencies rather than from census forms. The administrative-record information was then used in conjunction with industry averages to estimate the data for these establishments. The value of shipments and cost of materials were not distributed among specific products and materials but were included in the product and material "not specified by kind" (n.s.k.) categories.

EXPLANATION OF TERMS

Number of establishments and companies—A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

All employees—Includes all full-time and part-time employees on the payrolls at any time during the year. Included are all persons on paid sick leave, paid holidays, and paid vacations. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November.

Production workers—Includes workers up through the working-supervisor level engaged in fabricating, processing, assembling, inspecting, receiving, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial, guard services, product development, auxiliary production for plant's own use (e.g., power-plant), recordkeeping, and other closely associated services. Truckdrivers delivering ready-mixed concrete are also included in production workers.

Other employees—Includes nonproduction personnel, including those engaged in the following activities: supervision above working-supervisor level, sales (including driver/salespersons), sales delivery (truckdrivers and helpers), advertising, credit collection, installation and

servicing of own product, clerical and routine office functions, executive, purchasing, finance, legal, personnel (including cafeteria, etc.), professional, and technical employees.

Payroll—Includes the gross earnings for the “employees” defined above, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees’ Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. Respondents were told that in reporting they could follow the definition of payrolls used for calculating the Federal withholding tax.

Production-worker hours—Covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave when the employee was not at the plant.

Cost of materials—Refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuels consumed, regardless of whether they were purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

The important components of this cost item are (a) all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year; (b) electric energy purchased; (c) fuels consumed for heat, power, or generating electricity; (d) work done by others on materials or parts furnished by manufacturing establishments (contract work); and (e) products bought and resold in the same condition.

Specific materials consumed (table 3)—In addition to the total cost of materials which every establishment was required to report, information was also collected for most manufacturing industries on the consumption of major materials used in manufacturing. These inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers’ records. Establishments consuming less than a specified amount (usually \$10,000) of a specific material were not requested to report consumption of that material separately. Also, the cost of materials for the small establishments for which administrative records were used was estimated as “not specified by kind” (n.s.k.).

Value of shipments and other receipts—Generally refers to received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all

miscellaneous receipts such as receipts for contract work performed for others, installation and repair receipts, sale of scrap, and sale of products bought and resold without further processing. Included are all items made by or for the establishment from materials owned by it whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In a few industries, the value of production or value of work completed is used instead of value of shipments. These industries are identified in the introduction and are footnoted in table 1.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, that is, including not only the direct costs of production but also a reasonable proportion of “all other costs” (including company overhead and profit).

Shipments or production of individual products (table 2)—In the 1987 census, detailed shipment information was collected for approximately 11,000 individual products. These products are identified by a seven-digit code and are grouped into approximately 1,500 classes of products, which in turn are primary to 459 four-digit industries. Data at the five-digit product-class level have been collected each year as part of the annual survey of manufactures. Information at the seven-digit level, collected for many industries in the current industrial reports program, is not included in this table.

Value added by manufacture—This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments for products manufactured plus receipts for services rendered. The result of this calculation is then adjusted by the addition of value added by merchandising operations (that is, the difference between the sales value and cost of merchandise sold without further manufacturing, processing, or assembly) plus the net change in finished goods and work-in-process inventories between the beginning and end of the year.

For those industries where value of production is collected instead of value of shipments (see footnote in table 1), value added is adjusted only for the change in work-in-process inventories between the beginning and end of the year. For those industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

Value added avoids the duplication in the figure for value of shipments which results from the use of products of some establishments as materials by others. Value

added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

Expenditures for new plant and equipment—Establishments in operation and any known plants under construction were asked to report their expenditures for (a) permanent additions and major alterations to manufacturing establishments and (b) new machinery and equipment used for replacement and additions to plant capacity if they are of the type for which depreciation accounts are ordinarily maintained.

These totals exclude expenditures for used plant and equipment, expenditures for land, and cost of maintenance and repairs charged as current operating expenses. Data for used plant and equipment will be published in the final industry bulletin.

End-of-year inventories—Comprised of (a) finished products; (b) work-in-process; and (c) materials, supplies, fuels, etc. Beginning in 1982, respondents were asked to report their inventories at (the lower of) cost or market prior to adjustment to LIFO cost. This is a change from prior years in which respondents were permitted to value their inventories using any generally accepted accounting method.

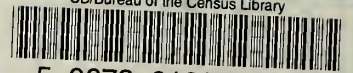
Therefore, 1982 through 1987 data for inventories are not strictly comparable to prior-year data.

Specialization and coverage ratios—An establishment is classified in a particular industry if its shipments of primary products of the industry exceed in value its shipments of the products of any other single industry. An establishments' shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). The following ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in table 1 and data on product shipments shown in table 2.

Specialization ratio—Represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

Coverage ratio—Represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments, wherever classified.

CB/Bureau of the Census Library



5 0673 01031344 6